

## 8. То, чего вы совершенно не знаете про "лунные" Хассельблады

10-12 minutes

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I want to tell you about why Hasselblad cameras that were completely unusable for filming were used in lunar missions.

On the one hand, "Hasselblads" are very expensive high-quality professional cameras, and on the other hand, they are absolutely unsuitable for shooting on the Moon. Any photographer who has ever shot with **medium format** cameras, for example, the Kiev-88 or the Soviet analogue Hasselblad, Salute, will tell you this .

Unlike **small-format** cameras such as Zenit or Smena-8M, which use 35 mm film, Hasselblad and Salyut are charged with 6 cm film.



The Smena-8M camera is included in the Guinness Book of Records as the most massive camera on the planet. Uses photographic film 35 mm wide.

The standard frame size on 6-cm film is 58x58 mm, which is about 4 times larger in area than the area of the frame on 35-mm film. 6-cm film, called "roller film", is wound on a reel and in a clever way is installed in a Hasselblad cassette. Then the cassette is closed with an opaque metal plate (shutter), which is called a "gate". The gate prevents the frame from being flashed.



Hasselblad camera cassette with a metal gate.

To insert a cassette into the camera, several operations are required. There are two tabs on the bottom of the camera that should fit into two slots in the cassette. Thus, the cassette is positioned relative to the frame window of the camera. And then, to fix the cassette, it clicks into place with a lock in its upper part: a movable bar with a button on the cassette should catch on two hooks on the camera.



Hasselblad 500cm Cassette Insertion: Aligning the tabs and slots at the bottom and locking the latch at the top.

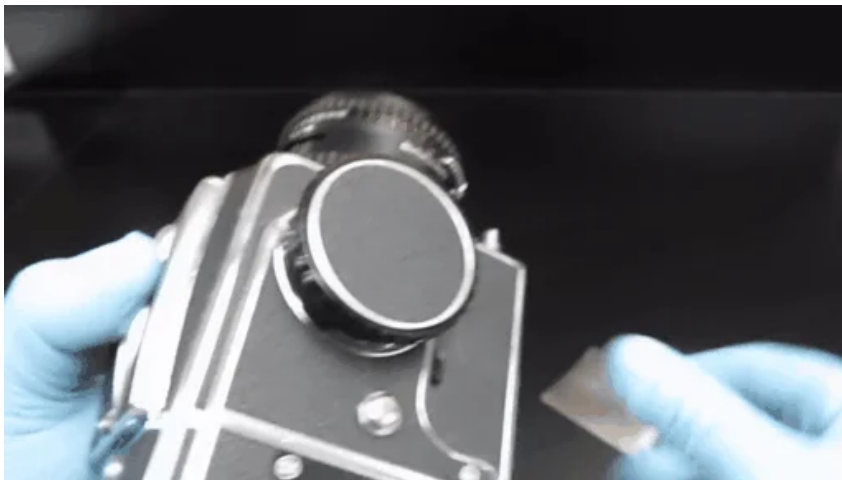
Until the gate is removed, it will not be possible to take a picture.



The release button is blocked by a slide gate.

The gate is taken out and shots are taken. This gate, like a lens cap, needs to be put somewhere. It cannot be lost; without a gate, the cassette will not unfasten from the camera. The fact is that the gate not only protects the film from light exposure, but also blocks the latch on the top of the cassette. When the gate returns to its place, the upper latch release lever is activated, and only then the cassette can be unfastened.

When the cassette has been removed, or when it needs to be replaced with another cassette, the slide is first inserted into the narrow slot between the camera and the cassette unit. It is not so easy to do this even in earthly conditions. See for example this [video](#) .



In order to unfasten the cassette, you first need to put the gate back in place.

And how to do this on the moon in a spacesuit with a limited viewing angle and thick gloves under pressure? According to NASA legend, astronauts changed several cassettes during one session. Instead of showing a video of how this process took place in a spacesuit (even if in training on Earth), NASA propagandists begin to laugh sarcastically:

***How did they change the cassettes?*** *Did you run into the module, pressurize it, take off the spacesuit, change the cassette, put on the spacesuit, depressurize the module and run to shoot further?*

Such remarks from his correspondence are given by Pyotr Dubrovsky [For more information, see an article written in 2011](#) . I advise you to read this interesting article.

How to make such a jewelry procedure in thick space gloves, if they are made of "composite rubber with a neoprene surface, aluminum, steel inner beta fabric, chromium-R, Velcro, composite rubber-silicone"? These are very durable and therefore rough gloves that impede delicate operations and accurate manipulations due to loss of sensitivity and limited mobility of the fingers - from the inside they are inflated by excessive pressure in the spacesuit.



Buzz Aldrin's gloves with an outer shell.

Note the system of retaining straps underneath the outer sheath to prevent excessive expansion of the sealed glove shell.





Armstrong's gloves without outer shell.

Any photographer who has worked with Salut or Hasselblad will tell you that it will be impossible to replace one cassette with another with thick moon gloves. Even just getting two pins into the slots of the cassette when the camera is mounted on the chest bracket under the chin is not realistic. It is possible only if instead of a spacesuit there is a "cinematic" fake tracksuit imitating a spacesuit, for example, as in Sandra Bullock in the movie "Gravity". Watch in the film's finale how easily the actress "with one movement of her hand" takes off her spacesuit underwater.



Hasselblad's "lunar" model. The red arrow indicates the pin for attaching the cassette.

However, NASA propagandists will say (I quote Stephen Lerner from P. Dubrovsky's article) that:

*"... Hasselblad cameras have one feature, for which they were actually chosen - the **cassette is attached to the outside of the camera. It can be easily and quickly replaced. , unfasten and put a cassette with a color film. Take a few shots and return the first one, black and white. Then put the color back on - as many times as you like. "***

And NASA propagandists will definitely note that the small round pip on the top of the cassette has been replaced in the "lunar" version with a lever.

Why were such cameras, completely inconvenient for reportage filming and absolutely unsuitable for filming on the Moon, were chosen as the main ones in "lunar" expeditions?

My answer will surprise you.

If you think that NASA stopped at a large frame size in order to preserve the "picture" of the landing of the first people on the Moon in the best quality for all mankind, then you are mistaken. If other thoughts on this matter did not come to you, then this means that you are still in the nets of the false Nazi web.

The last thing NASA cared about was high image quality. For example, the most recognizable and most cited "lunar" shots - "Armstrong descending the ladder" - are generally of an ugly quality, except for blurry shadows you can see nothing else. And that doesn't bother NASA.

The reason lies in a completely different plane. You know that "landing on the moon" was filmed in the pavilion. Moreover, the pavilion was not as big as a volleyball court. In such a pavilion, it was possible to shoot medium and even some general shots with actors-astronauts. But to shoot a distant shot with a lunar landscape, with a small figure of an astronaut in the distance and a rover standing in the depths, is simply impossible. It is difficult

to build such a giant pavilion, and even more difficult to illuminate it as if with one light source. Moreover, such powerful sources of artificial light simply do not exist.

NASA decided not to build anything so unusual and gigantic, but to follow the beaten path that filmmaking has been following for many years - to shoot long-range plans in the same pavilion, but instead of people use dolls, and instead of a rover and a lunar module - mock-ups.

Only here's the problem. When the mock-up is shot at close range, there is a small depth of field in the frame, and you immediately feel a catch, some kind of unnaturalness.



When shooting mock-ups, due to focusing at a close distance, the depth of field is shallow.

Here on the site [RC Reviews](#) Lots of pictures of radio controlled (RC) racing cars of different scales. And we immediately, noticing the blurry background, on a subconscious level understand that something is wrong here, that we have a small copy in front of us.





Radio-controlled model. Taken from the "RC Reviews" site.

And then someone at NASA had a brilliant idea. A shallow depth of field in the picture is obtained not only when we shoot scaled-down models at close range. On a medium format camera, the effect is exactly the same, even if we shoot objects at life size.

The fact is that a **normal** lens, which covers an angle of about 40-50 degrees (the area of clear vision in humans), is considered to be one whose focal length is equal to the frame diagonal. The diagonal of the frame on 35 mm film is about 43 mm, so the standard lens for 35 mm cameras is 40-50 mm.

The 35-mm camera "Smena-8M" was equipped with a lens with a focal length of 40 mm, FED-2 came with a 50 mm lens.

The diagonal of a square frame on 6-cm film is about 82 mm. Therefore a "normal" medium format lens is 80-90mm.

For example, the medium format "Kiev-6S" is equipped with a standard 90 mm lens.





Medium format camera "Kiev-6S" with a lens "90 mm".

This next photo, from the set, was just taken with my medium format camera, and the square frame was not cropped. The depth of field is shallow here, although the frame was taken with a "normal" lens.



The frame was taken with a medium format camera on a 6 cm wide film.

In the following NASA footage, you will notice blur, either in the foreground or in the background.



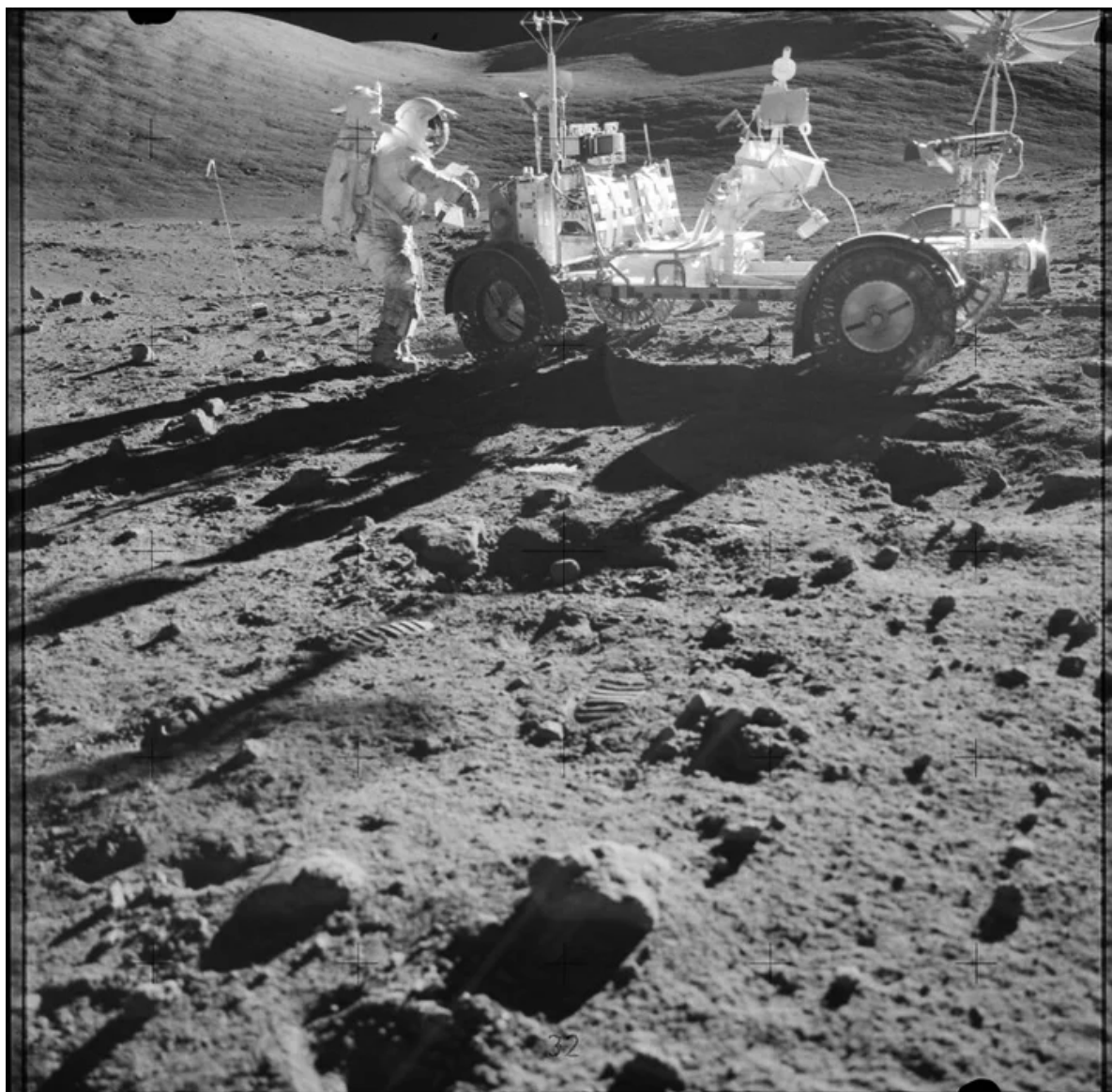


There is a stationary doll in the frame. Blur in the foreground. Allegedly "Apollo 17".



There is also a doll here. Blur in the background. AS17-142-21713





And this is also a doll. Blur in the foreground. AS17-136-20759.

These three photos from the Apollo 17 mission show the dolls. You probably think that the shallow depth of field (blur in the foreground or in the background) arose due to the fact that the frames were shot with a medium format Hasselblad with a 60 mm lens. But we have worked in the cinema and at a subconscious level we feel that we are facing small stationary toys, and we filmed them with a small-format camera with a smaller focal length of the lens.

**So, there is a myth that the frames of the "lunar" missions (square frames) were shot with a medium format Hasselblad camera. But at least, if not half, then more than two thousand square frames from these missions were definitely filmed not by Hasselblad, but by shooting equipment with a smaller frame size (in a different format) and with a smaller focal length. The "Hasselblads" fiction was needed in order to justify the shallow depth of field in the "lunar" photographs that occurs when shooting models (blur in the foreground or background). In fact, the shooting was carried out in the pavilion, and models and dolls were used to obtain distant shots. At the same time, the foreground was not at a distance of 1-2 meters, but several centimeters from the lens, which led to its blurriness.**

\*

Cameraman L. Konovalov was with you



We are discussing the shooting of "lunar" models with the cameraman Yuri Elkhov.

Until next time!